

In a segmentation method and system, a plurality of digitized images having different optical bands are acquired for the same micrographic scene of a biological sample. Each digitized image has a plurality of pixels having values from each digitized image. The pixel values are processed to identify nuclear or cytoplasmic material utilizing previously developed classification information developed from at least one cell having known regions of nuclear or cytoplasmic material. In a preferred embodiment, the neural network comprises a hardware-encoded algorithm in the form of a look-up table.

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